

Jenkins

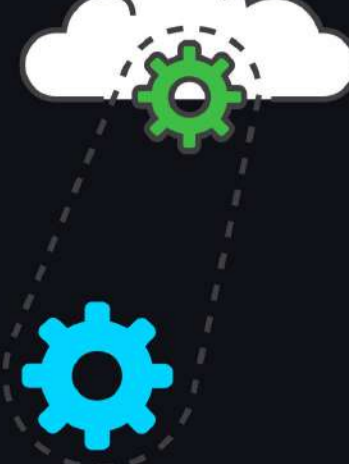
Pipeline Tutorial



Different Types Of CI: CD Pipelines And Stages

Organizations today prioritize optimizing and automating delivery.

Jenkins, an open-source tool, leads in orchestrating software pipelines. Its "Pipeline" feature lets teams manage workflows as code, integrating smoothly into DevOps for easy CI/CD.



Used by
55,900+
Companies



Holds
51.35%
market share in continuous
integration



A Cornerstone of
Jenkins
devops success

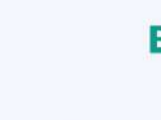
What?

The suite of plugins enables "build, test, deploy" in a set sequence. With over 1000 plugins, it offers tailored CI/CD solutions. It provides repeatable instructions for building and testing apps, bridging software from version control to user release.

Why?

- ✓ It creates a robust development environment, seamlessly bridging release to production.
- ✓ It encourages pipeline creation for each branch, ensuring consistent audit trails and testing.
- ✓ It excels in automating software delivery, offering distinct advantages.

BENEFITS



Automation



Flexibility



Visibility



Reusability



CI/CD Support

WHAT IS A CI/CD PIPELINE?

A series of automated steps for software delivery throughout its lifecycle. It emphasizes swift, high-quality code development by automating processes from development to monitoring.

TYPES OF JENKINS CI/CD Pipelines

01

Scripted Pipeline

Uses Groovy language for complex CD orchestration.

CHALLENGES

Imbalance in Groovy and Jenkins knowledge; can be hard to read/manage.

```
node {
  stage('Build') {
    _____
  }
  stage('Test') {
    _____
  }
  stage('Deploy') {
    _____
  }
}
```

Declarative Pipeline

Newer syntax with a pre-defined structure.

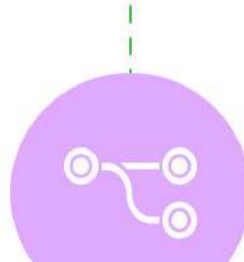
```
pipeline {
  agent any stages {
    stage('Build') {
      steps{
        _____
      }
    }
    stage('Test') {
      steps{
        _____
      }
    }
    stage('Deploy') {
      steps{
        _____
      }
    }
  }
}
```

CHALLENGES

Lacks Groovy, limiting API access; but is simpler to read/manage

Stages In Jenkins Pipeline

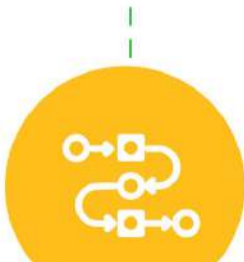
Parallel Stages



- Execute multiple stages simultaneously.
- Ideal for 'build' and 'test' on different platforms.

- Can abort problematic stages with fail Fast.

Sequential Stages



- Nested stages within each parallel branch.

- Provides clear visibility into stage sequence and execution order.

Integrating Test Automation

With Jenkins

01

Test automation, vital in DevOps, speeds up software development with repeatability.

02

Given CI/CD's emphasis on automation, Jenkins is the go-to for integration.

03

ACCELQ's Jenkins plugin further streamlines this, optimizing CI pipeline automation.